

**Table 5.1: Digital Subtraction Angiography Unit Survey Requirements**

	<b>Test</b>	<b>Freq</b>	<b>Measurements</b>	<b>Tolerance</b>
1.	<b>High Contrast Resolution</b>	A	0.1 mm Pb test pattern parallel, perp and at 45° to raster lines. All available output modes at each available II size.	Establish baseline resolutions.
		P	0.1 mm Pb test pattern at 45° to raster lines. Most commonly used output mode and II size.	Maintain acceptable level.
2.	<b>Low Contrast Performance</b>	A	Low contrast artery insert perp to raster lines. All available output modes at each II size.	Establish baseline sensitivities.
		P	Most commonly used output mode and II size.	Maintain acceptable level.
3.	<b>Spatial Uniformity</b>	A	Same phantom arrangement as Test No. 2. All available output modes at each available II size. Determine thinnest vessel maintaining uniform thickness along its entire length at each contrast concentration.	Establish baseline thicknesses at each concentration.
		P	Most commonly used output mode and II size.	Maintain acceptable level.
4.	<b>Contrast Linearity</b>	A	Contrast linearity insert perp to raster lines. All available output modes at each II size. Calculate linear correlation coefficient.	Establish baseline coefficients.
		P	Most commonly used output mode and II size.	± 0.01 of baseline
5.	<b>Contrast Uniformity</b>	A	Phantom base + plastic step wedge or bone block. Low contrast artery insert perp to raster lines and step wedge step or bone block All available output modes at each II size. Determine thicknesses of bone or plastic wedge under which the thickest vessel at each contrast concentration is visible.	Establish baselines for tissue and bone.
		P	Most commonly used output mode and II size.	Maintain acceptable levels.
6.	<b>Subtraction Artifact Evaluation</b>	A	Registration plate on top of phantom base. All available output modes at largest II size. Determine minimum subtraction artifact development time.	Establish baseline times.
		P	Most commonly used output mode at largest II size.	Maintain acceptable time.
7.	<b>Entrance Exposure Rates</b>	A	Full DSA phantom (base + folded ramp). All available output modes at each II size. 6 cm <sup>3</sup> ion chamber at phantom surface.	Establish baseline dose rates.
		P	Most commonly used output mode and II size.	± 20% of baseline
8.	<b>Scatter Exposure Rates</b>	A	Full DSA phantom (base + folded ramp). All available output modes at each II size. 180 cm <sup>3</sup> ion chamber at room locations occupied by angiography staff.	Establish baseline dose rates.
		P	Most commonly used output mode and II size.	± 20% of baseline

Abbreviations: A: acceptance, P: periodic, II: image intensifier